AMENDMENT

Please cancel claims 1-37 and 41-51 without prejudice or disclaimer.

Please add the following claims:

--52. The method of claim 38, wherein said putative modulator affects the function of TLR-4.

53. The method of claim 52, wherein said putative modulator is an agonist.

54. The method of claim 52, wherein said putative modulator is an antagonist.

55. The method of claim 52, wherein said putative modulator affects the transcription of TLR-4.

56. The method of claim 52, wherein said putative modulator affects the translation of TLR-4.

57. The method of claim 38, wherein the TLR-4 polypeptide has the amino acid sequence of SEQ ID NO:2.

58 The method of claim 38, wherein the TLR-4 polypeptide has the amino acid sequence of SEQ ID NO:4.

59 The method of claim 38, wherein the TLR-4 polypeptide has the amino acid sequence of SEQ ID NO:6.

60. The method of claim 38, wherein the TLR-4 polypeptide has the amino acid sequence of SEQ ID NO:98.

61. The method of claim 38, wherein the TLR-4 polypeptide has the amino acid sequence of SEQ ID NO:99.

62. The method of claim 38, wherein said nucleic acid segment and putative modulator are maintained under conditions that normally allow for TLR-4 transcription and translation.

63. The method of claim 38, wherein said putative modulator inhibits TLR-4 directed signaling of TNF secretion.

64. The method of claim 38, wherein said putative modulator stimulates TLR-4 directed signaling of TNF secretion.

65. The method of claim 38, wherein said putative modulator to be screened is obtained from a library of synthetic chemicals.

66. The method of claim 38, wherein said putative modulator to be screened is obtained from a natural source.

67. The method of claim 65, wherein said natural source is selected from the group consisting of animals, bacteria, fungi, plant sources and marine samples.

68. The method of claim 38, wherein said putative modulator to be screened is a protein or peptide.

69. The method of claim 38, wherein said putative modulator to be screened is a small molecule inhibitor.

70. The method of claim 38, wherein said putative modulator to be screened is a nucleic acid molecule.

71. The method of claim 38, wherein said putative modulator to be screened is a stimulator of an immune response.

72. The method of claim 71, wherein said stimulator of an immune response is a cytokine.

73. The method of claim 71, wherein said stimulator of an immune response is an interferon.

74. The method of claim 38, wherein said TLR-4 polypeptide is encoded by a nucleic acid sequence selected from the group comprising SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:46, SEQ ID NO:47 and SEQ ID NO:48.

75. The method of claim 38, wherein said putative modulator to be screened is an IL-1 receptor antagonist.

76. The method of claim 38, wherein said putative modulator to be screened is selected based upon a knowledge of the TLR-4 protein structure.

77 A method of screening for modulators of an LPS mediated response comprising the steps of:

(i) providing a TLR-4 polypeptide;

(ii) determining a standard activity profile of said TLR-4 polypeptide;

(iii) contacting said TLR-4 polypeptide with a candidate substance; and

(iv) comparing activity of the TLR-4 polypeptide contacted with said candidate substance with the standard activity profile,

wherein a change in the activity of the TLR-4 polypeptide contacted with the candidate substance, when related to the standard activity profile, indicates that said candidate substance is a modulator of an LPS mediated response.

78. The method of claim 77, wherein the standard activity profile of the TLR-4 polypeptide is determined by determining the ability of the TLR-4 polypeptide to stimulate transcription of a reporter gene, the reporter gene operatively positioned under control of a nucleic acid segment comprising a promoter from a TLR-4 gene.

[redacted]

79. The method of claim 77, wherein said candidate substance affects the function of TLR-4.

80. The method of claim 79, wherein said candidate substance is an agonist.

81. The method of claim 79, wherein said candidate substance is an antagonist.

82. The method of claim 79, wherein said candidate substance affects the transcription of TLR-4.

83. The method of claim 79, wherein said candidate substance affects the translation of TLR-4.

84. The method of claim 77, wherein the TLR-4 polypeptide has the amino acid sequence selected from the group comprising SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:98 and SEQ ID NO:99.

85. The method of claim 77, wherein said nucleic acid segment and candidate substance are maintained under conditions that normally allow for TLR-4 transcription and translation.

86. The method of claim 77, wherein said candidate substance inhibits TLR-4 directed signaling of TNF secretion.

[redacted]

87. The method of claim 77, wherein said candidate substance stimulates TLR-4 directed signaling of TNF secretion.

88. The method of claim 77, wherein said candidate substance to be screened is obtained from a library of synthetic chemicals.

89. The method of claim 77, wherein said candidate substance to be screened is obtained from a natural source.

90. The method of claim 89, wherein said natural source is selected from the group consisting of animals, bacteria, fungi, plant sources and marine samples.

91. The method of claim 77, wherein said candidate substance to be screened is a protein or peptide.

92. The method of claim 77, wherein said candidate substance to be screened is a small molecule inhibitor.

93. The method of claim 77, wherein said candidate substance to be screened is a nucleic acid molecule.

94. The method of claim 77, wherein said candidate substance to be screened is determined to be a stimulator of an immune response.

[redacted]

95 The method of claim 94, wherein said stimulator of an immune response is a cytokine.

96. The method of claim 94, wherein said stimulator of an immune response is an interferon.

97. The method of claim 77, wherein said TLR-4 polypeptide is encoded by a nucleic acid sequence selected from the group comprising SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:46, SEQ ID NO:47 and SEQ ID NO:48.

98. The method of claim 77, wherein said candidate substance to be screened is an IL-1 receptor antagonist.

99. The method of claim 77, wherein said candidate substance to be screened is selected based upon a knowledge of the TLR-4 protein structure.--

II. RESPONSE TO RESTRICTION REQUIREMENT

In response to the restriction requirement which the Examiner imposed, Applicants elect to prosecute claims 38-40, *i.e.*, the Group IV claims.

[redacted]